OPTICAL DEVICE, METHOD OF CLEANING THE SAME, PROJECTION ALIGNER, AND METHOD OF PRODUCING THE SAME

ABSTRACT OF THE DISCLOSURE

A reticle (R) is irradiated with an ArF excimer laser beam to transfer a pattern on the reticle (R) onto a wafer (W) through a projection optical system (PL). Each of a plurality of illuminating lens units (2) arranged in the illuminating optical passage has a barrel containing a plurality of lenses, and caps are so provided as to be 10 spaced from the lenses at both ends. Lens chambers among the lenses are filled with an inert gas, and the spaces between the caps and the lenses are also filled with an inert gas. When the illuminating lens unit (2) are housed in and illuminating optical path housing, the caps are 15 removed while purging the spaces. Therefore, the lenses at both ends are prevented from being contaminated and the transmittance of the optical lens device for exposure with light having a wavelength of shorter than 300 nm is prevented from lowering.